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Project name:
Building 476 Demolition Project

Project reference:
60595442

To:
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From:
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Date:
August 9, 2019

CC:
Raymond Schuler, NASA
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Memo

Subject: Section 106 Consultation on Building 476 Demolition Project, NASA Ames Research Center, Moffett Field, Santa Clara County, California

1. Introduction

The National Aeronautics and Space Administration (NASA) Ames Research Center (ARC) proposes the Building 476 Demolition Project (project or undertaking) at ARC, Moffett Field, Santa Clara County, California. As the lead federal agency, NASA is responsible for compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (54 United States Code 300101 et seq.), which requires federal agencies to take into account the effects of their activities and programs on historic properties, and its implementing regulations in 36 Code of Federal Regulations (CFR) Part 800. The purpose of this memorandum is to provide necessary information for compliance with Section 106, including a description of the undertaking and the Area of Potential Effects (APE), the methodology used to identify and evaluate historic properties within the APE, a description of the affected historic properties, and an assessment of potential effects resulting from the undertaking.

1.1 Project Location

Building 476 is located within the NASA Ames Research Park at ARC, Moffett Field, Santa Clara County, California (see Appendix A; Map Figures 1 and 2). The building is southwest of the intersection of Wescoat Road and Bailey Road, just outside the boundary of the U.S. Naval Air Station (NAS) Sunnyvale, California Historic District, which is listed in the National Register of Historic Places (NRHP). Building 476 is in a former cantonment area that is south of Shenandoah Plaza.

1.2 Project Personnel

This study was conducted by cultural resources professionals who meet the Secretary of the Interior's Professional Qualifications Standards (48 Federal Register 44738). Trina Meiser, M.A., Senior Architectural Historian, served as the Principal Investigator; Jennifer Redmond, M.A., RPA, addressed archaeological resources; Lauren Downs, M.A., RPA, provided map figures; and Kirsten Johnson, M.A., served as the lead verifier of this document.

2. Description of the Undertaking

The project involves the demolition of Building 476, which is considered an undertaking per 36 CFR § 800.3(a). The purpose of the undertaking is to remove Building 476 and its associated utilities, and return the site to a safe and level condition. Building 476 is an obsolete facility that has asbestos and lead issues, outdated safety systems, seismic deficiencies, and facilities that are non-compliant with the Americans with Disabilities Act. Its current use is limited to storage due to its condition. The need for the undertaking is to eliminate ongoing maintenance costs and efforts for the obsolete building.

This project would:

- Demolish Building 476 but leave foundation and sidewalks in place.
- Remove existing utilities outside of the building curb line, including sanitary sewer, water, fire water, natural gas, and electrical ducts, back to the point of connection to the main. No abandoned lines or services shall remain.
- Provide approximately 350' of underground 2" polyvinyl chloride (PVC) conduit at a 30" depth between the Building 152 electrical room and pole #4 in the Building 476 parking lot to modify the parking lot lighting power supply.
- Restore the site to the same level as adjacent surfaces at all utility excavations using dirt, crushed gravel, rock, or other fill material, as appropriate.

The staging area for this project would be limited to the paved parking lot southwest of Building 476.

Select project drawings are provided in Appendix B.

3. Area of Potential Effects

The APE is defined to address both direct and indirect impacts on historic properties. The APE encompasses areas that may be affected by both temporary and permanent construction activities. Below-grade activities are limited to the excavation areas for the removal of Building 476's utilities and an area of the parking lot where a new 2" diameter subsurface conduit would be installed. These areas and the Building 476 footprint are included in the APE for direct impacts, with a vertical APE of 5' maximum depth to access utilities in limited areas where excavation would occur. Above-ground activities include demolition of Building 476. Visual and atmospheric impacts resulting from the demolition pose limited potential to impact adjacent historic properties; therefore, the APE includes the Building 476 footprint with a 250' buffer to address potential visual and/or atmospheric intrusions related to the removal of the building (see Appendix A; Map Figure 3).

4. Identification of Historic Properties

Historic properties are defined as any district, site, building, structure, or object that is included in or is eligible for listing in the NRHP. The following sections address the methodology and efforts to identify historic properties in the APE.

4.1 Archaeological Resources

The land that comprises ARC has changed dramatically since the early twentieth century from predominantly agricultural use to an extensive military airfield installation beginning in 1931 and aeronautical research and development beginning in 1939. Extensive surface disturbance occurred throughout ARC with grading and fill to create the airfield and the campuses with hundreds of buildings and structures to support operations.

A comprehensive investigation of previous archaeological studies at ARC was completed in 2017 (AECOM 2017). This investigation involved a desktop survey of archival resources and a geoarchaeological assessment

of the entire ARC site, and included an assessment of archaeological sensitivity and the potential for buried archaeological resources. In a letter dated June 22, 2017, the State Historic Preservation Officer (SHPO) found the study results acceptable as a baseline for future investigation and treatment of archaeological resources at ARC and as a reference for professionally qualified staff for future undertakings (NASA_2015_0928_001). The study identified areas of heightened prehistoric and historic sensitivity and also concluded that there is low potential for more deeply buried prehistoric archaeological resources across ARC.

A review of the 2017 investigation indicates that a portion of the proposed work (parking lot power supply modifications) is in an area of historic archaeological sensitivity. Ground disturbance in this area would be limited to trenching through existing parking lot pavement to lay approximately 350' of underground 2" PVC conduit at a depth of 30". Unfortunately, given the long history of cutting and filling for military development across ARC, it is not possible to anticipate how deeply buried historic archaeological resources may be, if they are present at all, and the amount of prior subsurface disturbance in this area is unknown. The APE is roughly in the location of a building depicted on the “D. Frink” property on the 1876 Thompson & West map, although as noted in the 2017 investigation, the spatial accuracy of this map is not high (AECOM 2017). In general, it can be assumed that the APE is in an area that contained sparsely developed rural agricultural activities prior to 1931 and it must be assumed that there is a moderate potential for encountering buried historic-era archaeological resources within the proposed electrical conduit trench. Other ground disturbance to excavate and cap Building 476’s utility lines and regrade the area to level it with adjacent surfaces would be at 5' maximum depth and limited to areas of no archaeological sensitivity. Ground disturbance in both areas will be limited to previously disturbed areas with low potential for deeply buried prehistoric sites.

The APE is largely built up and paved; therefore, further archaeological survey is not possible. In addition, the generally non-specific nature of the historic archaeological sensitivity does not allow for targeted testing of potential resources. However, because there is a moderate potential for historic period resources to be encountered in the APE, it is recommended that archaeological monitoring occur during potholing and trenching for the installation of the electrical conduit from Building 152.

4.2 Architectural Resources

One historic district and seven buildings were identified in the APE and all have been previously evaluated for NRHP eligibility. The NAS Sunnyvale Historic District was fully documented in an NRHP nomination application in 1994 and Buildings 21 and 22 were listed in the NRHP as contributors to the district. Buildings 109, 148, 149, 152, and 476 were evaluated in 1999 as part of the *Inventory and Evaluation of Cold War Era Historical Resources: Moffett Federal Airfield and NASA Crows Landing Flight Facility* (SAIC 1999). These buildings were found not eligible because they were less than 50 years old and did not meet Criteria Consideration G for exceptional significance under the Cold War context for military installations (SAIC 1999). The SHPO concurred with the findings of the Cold War study on May 11, 1999 (NASA_981026A).

AECOM determined that the seven buildings in the APE required further evaluation to determine whether they are historic properties, and a survey of the APE was conducted on July 22, 2019. The buildings to the west of Building 476 were built in 2005 and were not evaluated.

4.2.1 NAS Sunnyvale Historic District

Listed in the NRHP in 1994, the NAS Sunnyvale Historic District is significant under NRHP Criteria A and C, and originally included only the earliest Spanish Colonial campus buildings around Shenandoah Plaza and Hangars 1, 2, and 3. The original periods of significance of the district were identified as 1930 through 1935 and 1942 through 1946. The utilitarian style of later buildings was noted in the NRHP nomination; however, at the time of the nomination, several buildings were not yet 50 years old and were not considered contributing under the statement of significance that focused on Spanish Colonial Revival-style architecture and the engineering feat related to the airfield hangars.

In 2013, a historic property survey of Moffett Field was conducted to evaluate the significance of additional resources related to the airfield and concluded that the airfield and related resources are eligible for the NRHP

under an expanded context for the NAS Sunnyvale Historic District (AECOM 2013). The SHPO concurred on expanding the boundary of the district on June 6, 2013 (NASA_2013_0417_001) with a revised period of significance of 1942 to 1961 for the airfield (see Appendix A, Map Figure 2 for expanded historic district boundary). The district's statement of significance was also revised to include the World War II and Cold War military missions. However, the 2013 study did not revisit the previously listed areas of the district or its contributing and non-contributing resources.

No major alterations to the district have occurred since it was listed in 1994, with the exception of removal of the exterior materials of Hangar 1 to remediate hazardous materials. The district retains its integrity and remains eligible for the NRHP.

4.2.2 Buildings 21 and 22, Bachelor Officers Garages

Buildings 21 and 22 are one-story, concrete, Spanish Colonial Revival-style garages that have mirrored, rectangular plans on concrete slab foundations (Photograph 1). The roofs are gabled with high parapet walls and decorative parapets at the gable ends. The garages have multiple bays with wood paneled garage doors facing the driveway and parking area between them. The south elevations of each building contain three wood-framed multi-light windows with heavy sills. The remaining elevations contain similar windows regularly spaced along the exterior walls.

Built in 1933, Buildings 21 and 22 are listed in the NRHP as contributors to the NAS Sunnyvale Historic District. No apparent alterations to the buildings have occurred since they were listed in 1994.

Photograph 1. Buildings 21 and 22, south and east elevations, view facing northwest

4.2.3 Building 109, Pool House

Building 109 is a two-story, concrete-block building with an irregular plan on a concrete slab foundation (Photograph 2). The primary plan is rectangular with one-story wings on the east and west sides. The flat roof is

complex with a moderate overhang; at the façade, exposed rafter tails are decoratively carved. The exterior walls have a smooth, painted surface. Windows are generally elevated, sliding units with narrow trim and sills. The façade (north elevation) features an inset porch supported by two square wood posts and the recessed main entrance composed of a single metal door flanked by two windows. Additional single-entry wood doors are in the perpendicular returns of the inset porch. The second story is set back and contains a series of windows. A pool is located on the south side of the building.

Building 109 was previously evaluated in 1999 as not eligible for the NRHP (SAIC 1999). Built in 1948, the building was considered a support building, and not of exceptional significance to qualify under the Cold War context for military buildings under Criteria Consideration G. Since that time, the building has not acquired additional significance related to any new contexts. It does not meet the criteria for NRHP eligibility.

Photograph 2. Building 109, north elevation, view facing northwest

4.2.4 Buildings 148 and 149, Bachelor Enlisted Quarters

Buildings 148 and 149 are two-story, concrete barracks buildings with long, rectangular plans on concrete slab foundations (Photograph 3). The buildings are part of a series of barracks on either side of Building 152, which is the former enlisted mess hall and headquarters building. The buildings have low-pitched side-gabled roofs with wide overhangs. The north and south sides of the barracks have series of metal-framed multi-light windows with operable awning sash. Extended eaves and concrete canopies at the second floor line shade the windows. Staircases are located at the short (east and west) ends of the building. Open port holes provide light to these staircases.

Buildings 148 and 149 were previously evaluated in 1999 (SAIC 1999). Built in 1953, the buildings were considered support buildings and not of exceptional significance to qualify under the Cold War context for military buildings under Criteria Consideration G. Since that time, the buildings have not acquired additional significance related to any new contexts. They do not meet the criteria for NRHP eligibility.

Photograph 3. Buildings 148 and 149 (left) and Building 150 (not in the APE), west and south elevations, view facing northeast

4.2.5 Building 152, Enlisted Mess Hall

Building 152 is a one-story, reinforced concrete, contemporary building with an irregular plan on a concrete slab foundation. The building includes a one-story dining hall connected to a one-story warehouse with a loading ramp. The dining hall has a shallow-pitched gable roof, and the warehouse portion has a flat roof and a two-story utilities tower. The façade (east elevation) features a concrete arcade and five recessed metal and glass entrance doors. The west side of the warehouse (facing the project area) features a rollup door and metal double doors. A concrete block utilities building is attached on the north side of the building.

Building 152 was previously evaluated in 1999 under the Cold War context (SAIC 1999). Built in 1953, the building was considered a support building and not of exceptional significance to qualify under the Cold War context for military buildings under Criteria Consideration G. Since that time, the building has not acquired additional significance related to any new contexts. It does not meet the criteria for NRHP eligibility.

4.2.6 Building 476, Exchange

Building 476 is a one-story, tilt-up concrete, contemporary building with a roughly square plan on concrete slab foundation. The roof is flat with built-up materials and mechanical equipment. The exterior walls are smooth concrete with parapet walls at the roofline. The west side of the façade (south elevation) features a flat roof canopied porch with textured masonry piers and planter walls, recessed aluminum and glass doors, and a ribbon of fixed aluminum windows (Photograph 4). The east side of the façade features a pop-out wing with two sets of aluminum glazed doors and a ribbon of fixed aluminum windows under a metal and fabric awning with a patio surrounded by a low-textured masonry perimeter wall (Photograph 5). The east elevation contains three single-door entries with utilitarian metal doors, and two additional entrances covered with flat concrete awnings (Photograph 6). The north elevation contains two single-door entries with utilitarian metal doors and a loading dock with rollup doors shaded by an awning supported on metal poles on the west end of the elevation (Photograph 7). The west elevation contains a double-door entry with flush utilitarian metal doors.

Photograph 4. Building 476, south elevation, view facing northwest

Photograph 5. Building 476, south and east elevations, view facing northwest

Photograph 6. Building 476, east and north elevation, view facing southwest

Photograph 7. Building 476, north elevation, view facing south

Building 476 was previously evaluated in 1999 under the Cold War context (SAIC 1999). Built in 1964, the building was considered a support building and not of exceptional significance to qualify under the Cold War context for military buildings under Criteria Consideration G. Since that time, the building has not acquired additional significance related to any new contexts. It does not meet the criteria for NRHP eligibility.

5. Assessment of Effects

Per 36 CFR § 800.5(a)(1), an adverse effect results when an undertaking may alter, either directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the NRHP in a manner that would diminish the historic property's integrity.

There are no known archaeological sites in the APE, and the APE is in an area with a low potential for buried prehistoric sites. The proposed work is within a sensitive historic archaeological zone; however, as noted in the Archaeological Resources Study for the ARC (AECOM 2017), the spatial accuracy of the map used as the basis for the sensitivity is low. In general, it can be assumed that the APE is in an area with a moderate potential to contain resources associated with the sparsely developed rural agricultural activities prior to 1931. The amount of prior disturbance in this location is unknown, although based on current aerial photographs of the APE, it appears prior trenching may have occurred in the parking lot near the APE. Per the 2017 investigation, archaeological monitoring, including preparation of a brief archaeological monitoring plan, is recommended prior to construction (AECOM 2017). Should the project uncover previously unknown subsurface archaeological resources, including when the monitor is present, contractors will immediately halt construction, secure the site, and notify NASA of the unanticipated discovery. NASA will follow the standard operating procedure for unanticipated discoveries as outlined in the Integrated Cultural Resources Management Plan (ICRMP) for ARC (AECOM 2014). Through implementation of mitigation measures outlined in the standard operating procedure for unanticipated discoveries, the undertaking would have no adverse effect on archaeological historic properties.

The survey identified three historic properties partially within the APE, including the NRHP-listed NAS Sunnyvale Historic District and Buildings 21 and 22, which are contributing elements of the district. All three of these properties are within the viewshed of Building 476. Built in 1933 as ancillary buildings associated with Shenandoah Plaza to the north, Buildings 21 and 22 are garages significant for their Spanish Colonial Revival-style architectural features in relation to the district. The garages are on the outskirts of Shenandoah Plaza and oriented to the north, away from Building 476. The buildings also predate Building 476 by 30 years and have no direct associations with it. Removal of Building 476 would have minimal impacts on the setting of Buildings 21 and 22 and would not detract from any historic characteristics of the buildings or the district, or compromise the properties' integrity of location, design, setting, materials, workmanship, feeling, or association. Therefore, the undertaking would result in no adverse effect on historic properties.

6. Summary of Findings

The criteria of adverse effect were applied to historic properties in the APE, including Buildings 21 and 22, which are contributors to the NAS Sunnyvale Historic District, and unanticipated archaeological historic properties that may be present in the APE. The proposed undertaking would not to alter, directly or indirectly, any of the characteristics of a historic property that qualify it for inclusion in the NRHP. Therefore, a finding of No Adverse Effect per 36 CFR § 800.5(b) would be appropriate for this undertaking.

7. References

AECOM, 2013. *Historic Property Survey Report for the Airfield at NASA Ames Research Center, Moffett Field, California*. *Accessible online at https://historicproperties.arc.nasa.gov/downloads/hpsr_airfield.pdf.*

AECOM, 2014. *Integrated Cultural Resources Management Plan for NASA Ames Research Center, Moffett Field, California*. *Accessible online at https://historicproperties.arc.nasa.gov/downloads/icrmp_nasa_arc_all.pdf.*

AECOM, 2017. *NASA Ames Research Center Archaeological Resources Study*. *Accessible online (redacted) at https://historicproperties.arc.nasa.gov/downloads/section106_achaeology_20170224_nasa_att.pdf.*

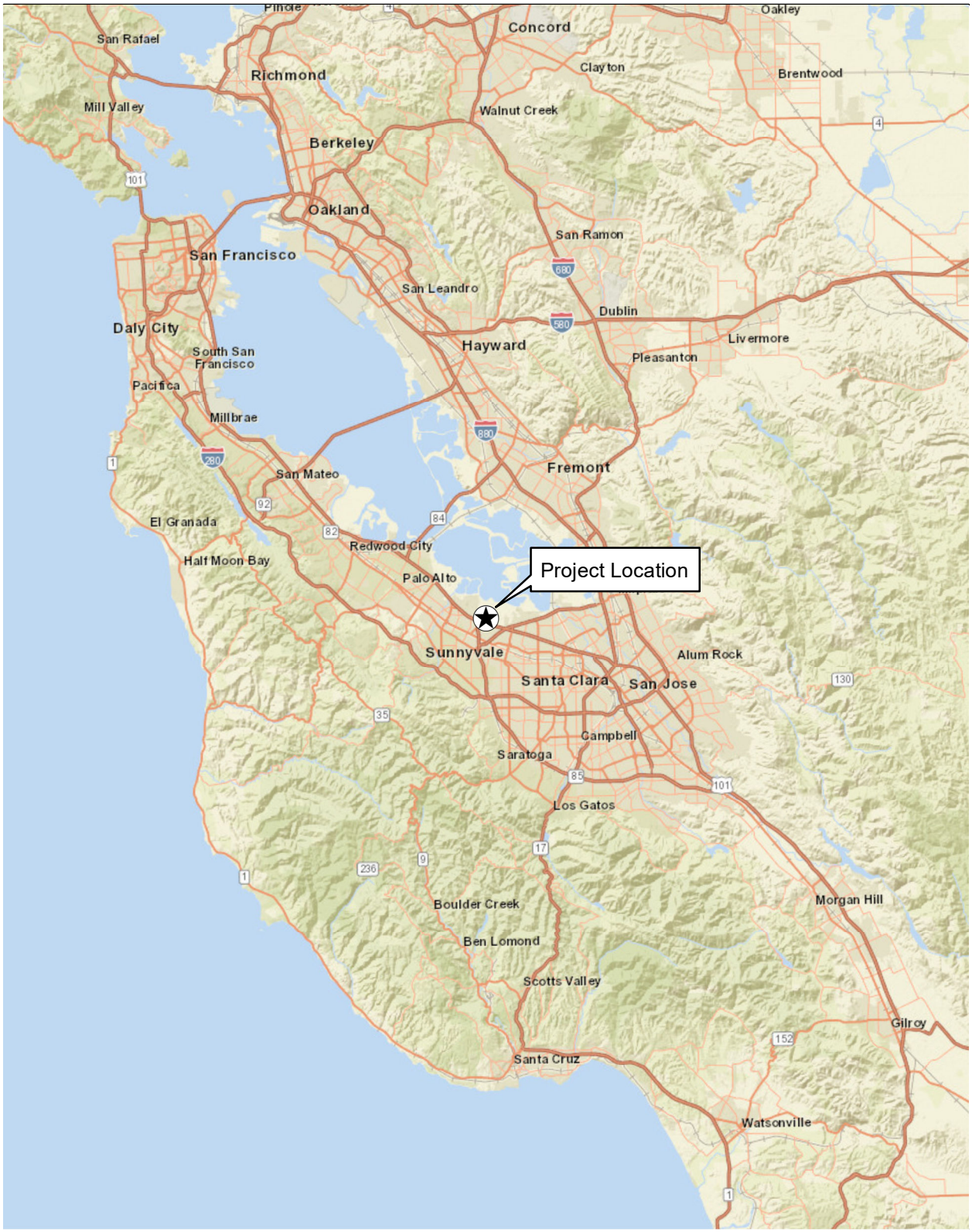
National Register of Historic Places (NRHP), 1994. U.S. Naval Air Station Sunnyvale, California, Moffett Field, Santa Clara County, California, NRHP # 94000045. *Accessible online at https://historicproperties.arc.nasa.gov/downloads/nrhp_registration.pdf.*

Science Applications International Corporation (SAIC), 1999. *Inventory and Evaluation of Cold War Era Historical Resources: Moffett Federal Airfield and NASA Crows Landing Flight Facility.* Prepared by Alexandra C. Cole for Science Applications International Corporation, Santa Barbara, California. *Accessible online at https://historicproperties.arc.nasa.gov/map_coldwar/coldwar.html.*

Attachments

Appendix A: Map Figures 1–3 (Project Location, Project Site, and APE)

Appendix B: Project Drawings



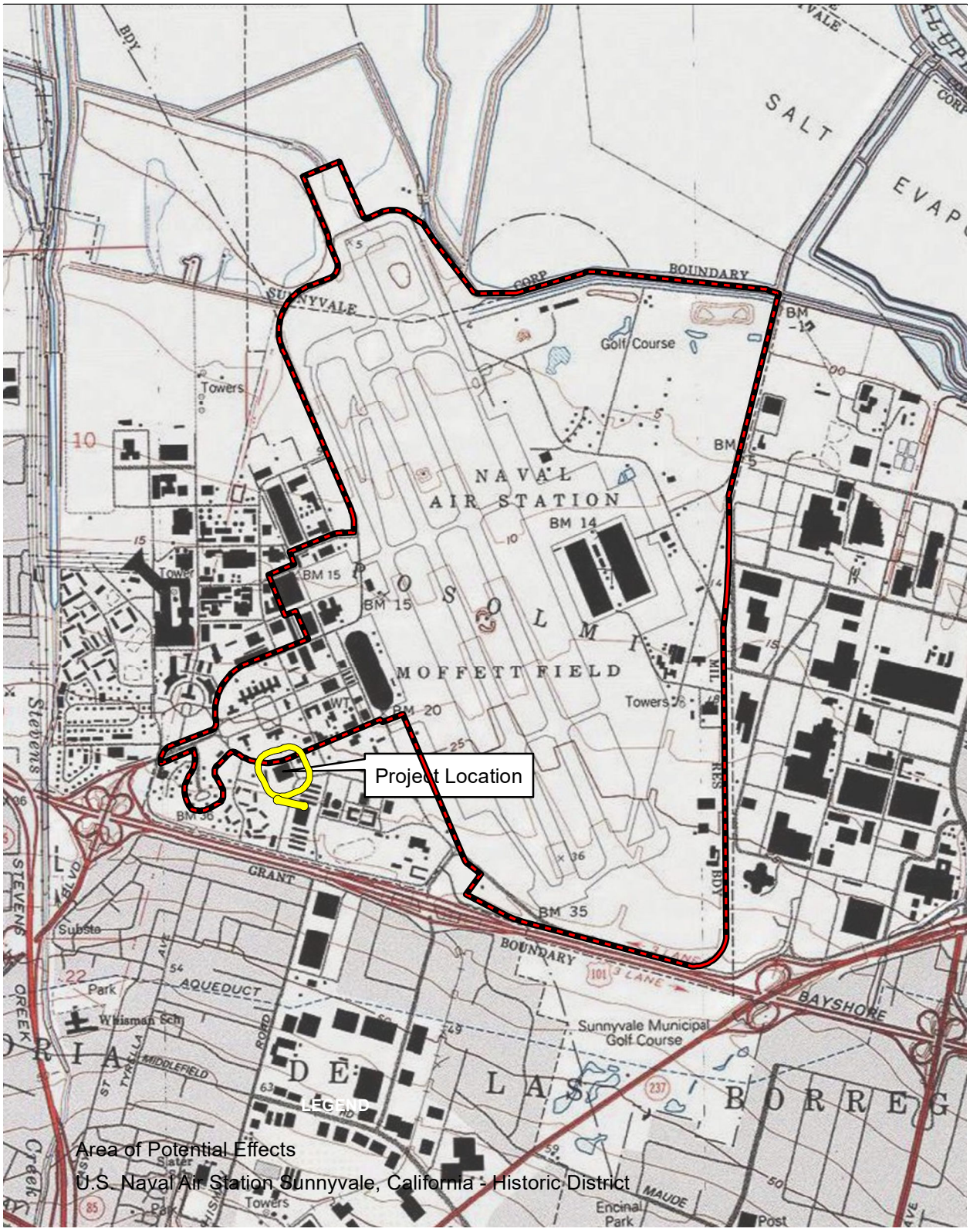
Source: ESRI, AECOM, NASA

0 5 10 20 Miles

Scale: 1 = 633,600; 1 inch = 10 mile(s)

Figure 1
Project Location

Path: P:\NASA\900-CAD-GIS\mxd\Bldg_476\Bldg476_Figure01_ProjectLocation.mxd, 8/5/2019, downsl1



Source: ESRI, AECOM, NASA, National Geographic Society; USGS 7.5' Topographic Quadrangle: Mountain View

0 1,000 2,000 4,000 Feet

Scale: 1 = 24,000; 1 inch = 2,000 feet

Figure 2
Project Site

Path: P:\NASA\900-CAD-GIS\mxd\Bldg_476\Bldg476_Figure02_Topo.mxd, 8/6/2019, downsl1

Appendix A, Figure 3 (Area of Potential Effects Map)
is redacted from this public posting.

Appendix B: Project Drawings is redacted from this public posting.